

Remarks/Arguments

35 U.S.C. §112, ¶2

The Examiner has rejected claims 1 and 3 under 35 USC 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, Examiner objected to the recitation of structural limitations in the preamble of claim 1, to a lack of antecedent basis for “the surface of the conformed block of foam,” and to ambiguity in the alternatives presented in claim 3.

Claim 1 has been amended to remove mention of structural limitations from the preamble and to clarify that the “block of foam” in the last claim element is the “thermoformed” block resulting from the previous process step. Claim 3 has been canceled.

In view of the above remarks and amendments to the claims, it is respectfully submitted that this rejection has been satisfied and should be withdrawn.

35 U.S.C. §103

Claims 1 and 3, stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jenness, Jr. (U.S. Patent No. 5,426,443) (“Jenness”).

It is respectfully asserted that Jenness fails to disclose a manufacturing process comprising the step of:

“thermoforming the external surface of a conical block of synthetic foam in a single step, using a single mold, to create a horn, a circular polarizer and an impedance adapter of the antenna by deformation of said external surface,”

as described in currently amended claim 1.

Among the problems addressed by the present invention is that the number of molds required for the manufacture of the various elements of a waveguide antenna can become prohibitive of high-volume, low-cost production. Moreover, the alignment and interconnection of the various elements of the antenna, in order to limit the electrical

discontinuities, can lead to manufacturing constraints that impact the production cost of the antenna. (Specification, page 1)

To address this problem, the present application discloses a method for manufacturing a microwave corrugated-horn antenna by thermoforming, in a single step, using a single mold, a horn, a circular polarizer, and an impedance adapter on the external surface of a block of synthetic foam, and then metalizing the surface of the thermoformed block. Thus, interconnection of the various elements of the antenna and the associated electrical discontinuities are avoided.

Jenness teaches a dielectric-supported reflector system wherein a "dielectric body 20 has a back surface 18, a surface of revolution about an axis 9-9. Back surface 18 has the form of a primary reflector of an antenna for transmitting or receiving microwave or millimeter wave electromagnetic radiation. A layer 15 of electrically conductive material is in contact with back surface 18. Dielectric body 20 also has a dome 23, a coaxial surface of revolution. A layer 25 of electrically conductive material is in contact with dome 23. A horn 40 fits on a protrusion 17 of dielectric body 20. Protrusion 17 aligns horn 40 on axis 9-9. The axial dimension of dielectric body 20 maintains the proper spacing between horn 40, conductive layer 25, and conductive layer 15 to enable the assembly to function as an antenna system." (Jenness Abstract)

Jenness discloses various elements of an antenna which are interconnected. Jenness does not, however, disclose thermoforming the external surface of a conical block of synthetic foam in a single step, using a single mold, to create a horn, circular polarizer and impedance adapter of the antenna. Therefore, Jenness fails to provide the advantage of the present invention of avoiding the connections and electrical discontinuities and fails to disclose a manufacturing process comprising the step of: "thermoforming the external surface of a conical block of synthetic foam in a single step, using a single mold, to create a horn, a circular polarizer and an impedance adapter of the antenna by deformation of said external surface," as described in currently amended claim 1.

In view of the above remarks and amendments, it is respectfully submitted that there is no 35 USC 112 enabling disclosure provided by Jenness, that makes the present invention as claimed in claim 1 unpatentable. Thus, it is further respectfully submitted that this rejection has been satisfied and should be withdrawn.

Having fully addressed the Examiner's requirements, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's representative at (609) 734-6804, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the additional fee to Deposit Account 07-0832.

Respectfully submitted,

/Brian J. Cromarty/

By: Brian J. Cromarty
Reg. No. 64018
Phone (609) 734-6804

Patent Operations
Thomson Licensing Inc.
P.O. Box 5312
Princeton, New Jersey 08543-5312
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